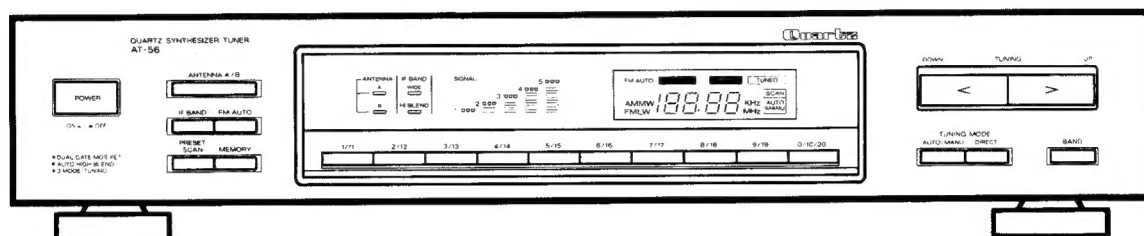


# AKAI SERVICE MANUAL



## QUARTZ SYNTHESIZER TUNER

## MODEL AT-56/L

### SPECIFICATIONS

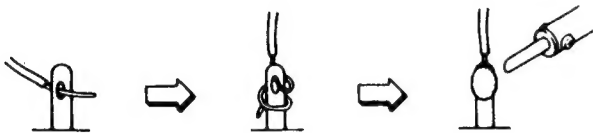
FM Tuner section	AM tuner section (MW & LW for AT-56L)	
Tuning frequency range ..... 87.5 MHz to 108.0 MHz	AM tuner Section (MW for AT-56L)	LW tuner Section (for AT-56L)
Usable sensitivity ..... 11.2 dBf		
Quieting sensitivity (S/N = 50 dB) ..... 16.2 dBf (Mono) / 37.2 dBf (Stereo)	Tuning frequency range ..... 531 kHz to 1,602 kHz	144 kHz to 351 kHz
Capture ratio ..... 1.5 dB	Usable sensitivity (Loop antenna) ..... 400 $\mu$ V/m	800 $\mu$ V/m
Selectivity	Selectivity ..... 40 dB	40 dB
Narrow ..... 80 dB	Image rejection ..... 40 dB	40 dB
Wide ..... 65 dB	IF rejection ..... 60 dB	60 dB
Image rejection ..... 90 dB	S/N ..... 60 dB	35 dB
IF rejection ratio ..... 85 dB	T.H.D ..... 1.8 %	1.8 %
Spurious rejection ..... 100 dB	Output level	
AM suppression ..... 60 dB	FM (V MODEL) ..... 690 mV (100% Mod)	
S/N (IHF) ..... 80 dB (Mono)/70 dB (Stereo)	(other MODEL) .. 930 mV (100% Mod)	
T.H.D (1 kHz)	AM (MW and LW for AT-56L) ..... 330 mV (30% Mod)	
Narrow ..... 0.15 % (Mono)/0.20 % (Stereo)	Power requirements ..... 220V, 50 Hz for Europe except UK	
Wide ..... 0.08 % (Mono)/0.15 % (Stereo)	240V, 50 Hz for UK	
Stereo separation (1 kHz)	110 - 120V/220 - 240V, 50/60 Hz convertible for other countries	
Narrow ..... 42 dB	Dimensions ..... 425(W) $\times$ 96(H) $\times$ 335(D) mm	
Wide ..... 45 dB	(16.7 $\times$ 3.8 $\times$ 13.2 inches)	
Frequency response ..... 30 Hz to 15 kHz $\pm$ 1.0 dB	Weight ..... 3.6 kg (7.9 lbs)	
Channel selectivity ..... 60 dB		

\* For improvement purposes, specifications and design are subject to change without notice.

## ★ SAFETY INSTRUCTIONS

### PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ (\*) symbol are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.  
Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
  - 1) Wires covered with PVC tubing
  - 2) Double insulated wires
  - 3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
  - 1) Insulation Tape
  - 2) PVC tubing
  - 3) Spacers (Insulating Barriers)
  - 4) Insulation sheets for transistors
  - 5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).

7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

### PRECAUTIONS FOR LITHIUM BATTERY

The lithium battery may explode when heated excessively.  
[ OBSERVE THE FOLLOWING WHEN REPLACING ]

- Replace with the same make and type only.
- Use soldering iron in "recommended way" only.
- Place battery in correct polarity.
- Do not short the terminals.
- Do not charge battery.
- Do not dispose of battery in fire.



[ DANGER ]



[ RECOMMENDED WAY ]

### MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can.



Please leave them at an appropriate depot. All other household batteries can be thrown out with the household waste.

## ★ INFORMATION

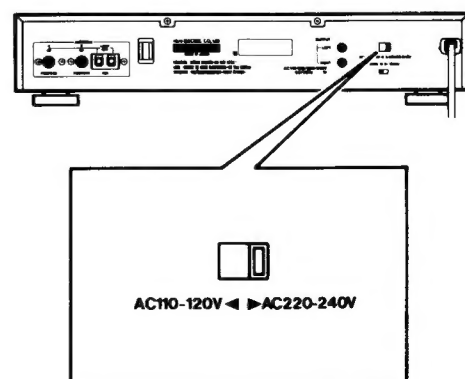
### SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
[ B ]	UK
[ E ]	Europe(except UK)
[ S ]	Australia
[ V ]	W.Germany only
[ U ]	Universal Area
[ Y* ]	Custom version

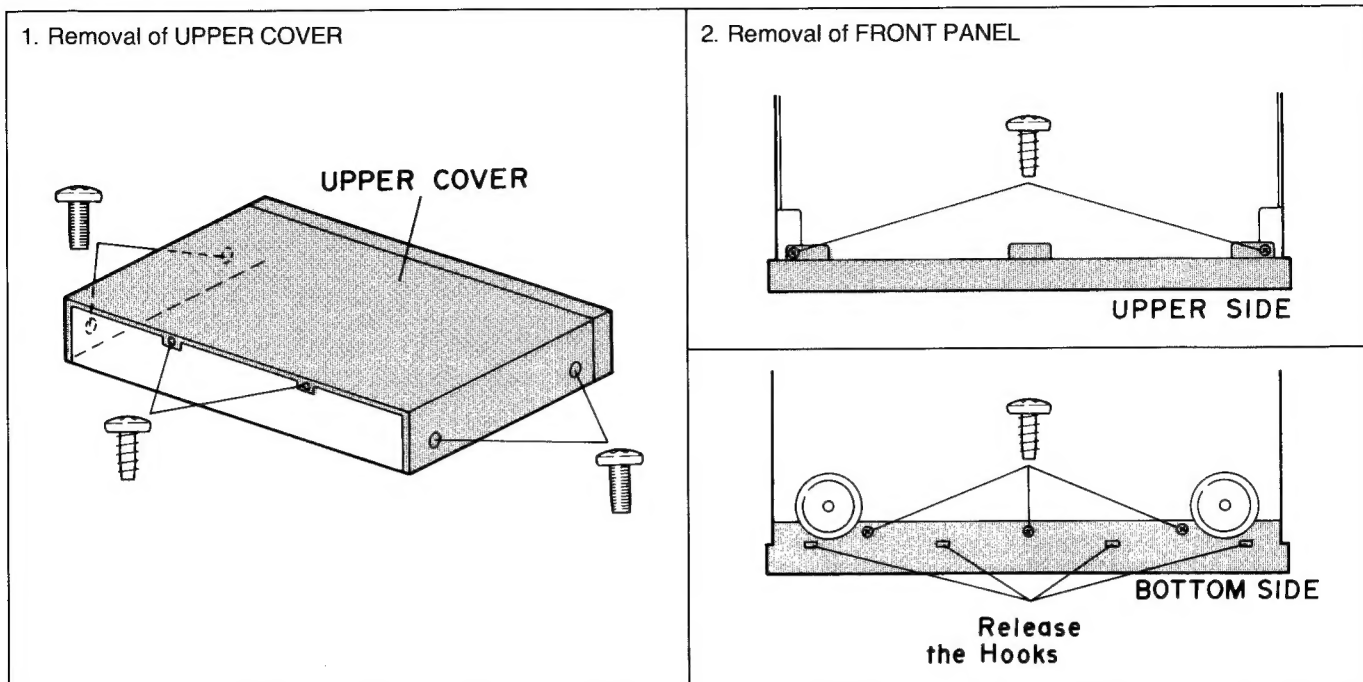
### VOLTAGE CONVERSION (U Model only)

Before connecting the power cord, set the VOLTAGE SELECTOR located on the rear panel so that the correct voltage for your area is indicated.



## I. DISASSEMBLY

In case of trouble, etc., necessitating dismantling, please dismantle in the order shown in the illustrations.  
Reassemble in reverse order.



## II. PRINCIPAL PARTS LOCATION

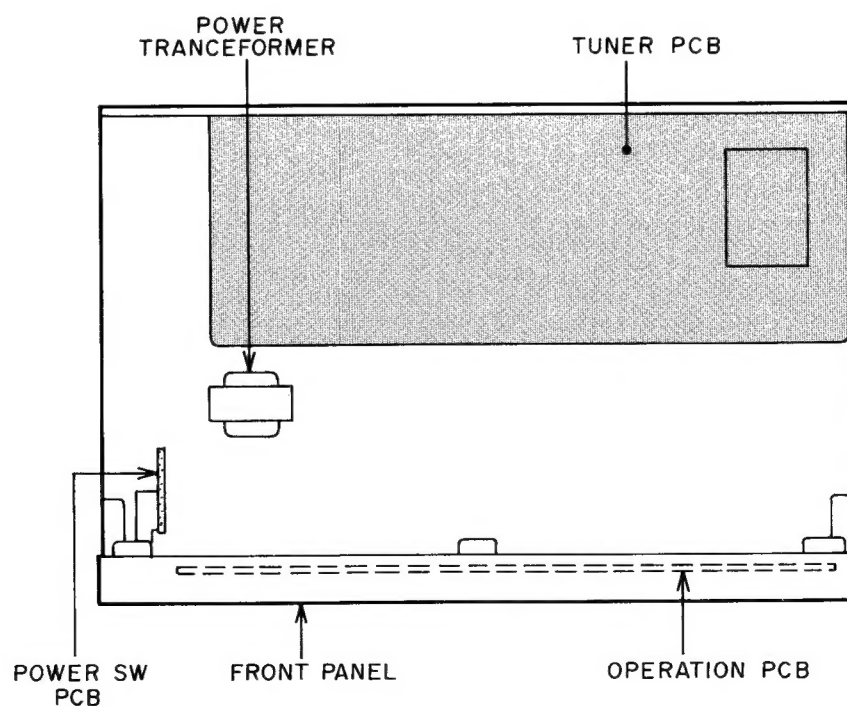


Fig. 2-1 Top view

### III. ADJUSTMENT

#### 3-1. INSTRUMENT CONNECTIONS

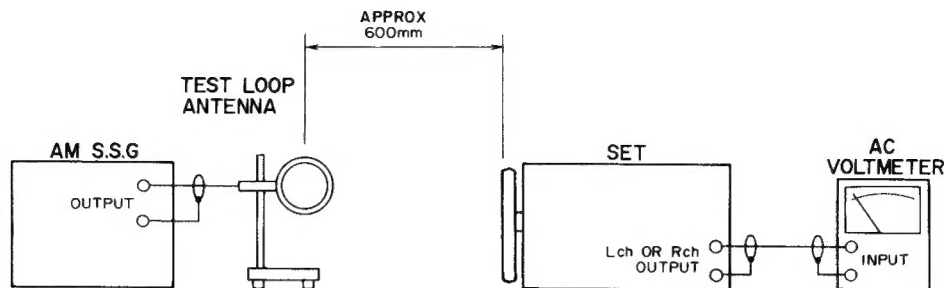


Fig 3-1. Instrument connection of AM adjustment.

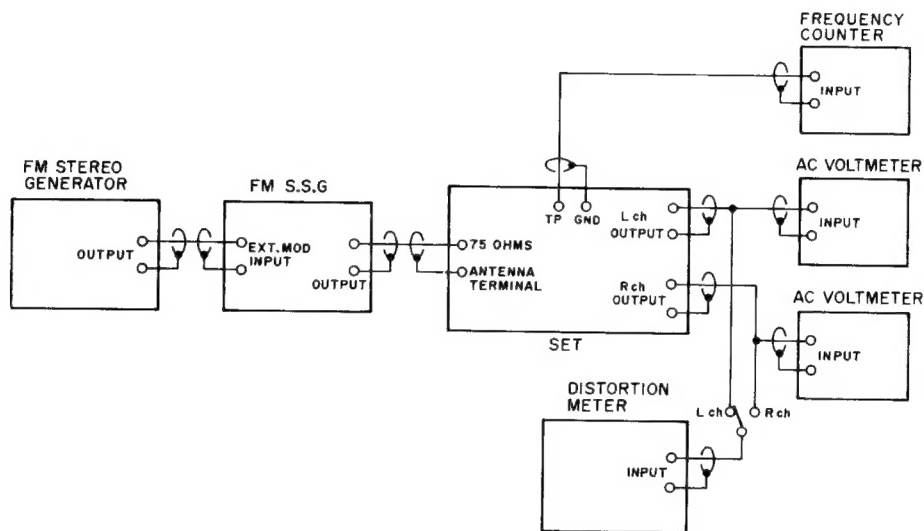


Fig 3-2. Instrument connection of FM adjustment.

#### 3-2. HOW TO CALL THE PRESET FREQUENCY FOR THE ADJUSTMENT.

Short the Test Point of RESET on the TUNER PCB.  
The internal frequency preset memory is set as below.

	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10
<b>[U]</b>	FM	FM	FM	FM	FM	FM	FM	FM	FM	FM
10 KHz step	88.0 MHz	90.0 MHz	98.0 MHz	100.0 MHz	106.0 MHz	108.0 MHz	95.7 MHz	107.7 MHz	92.0 MHz	94.0 MHz
<b>AT-56L</b>	FM	FM	FM	FM	FM	FM	LW	LW	FM	FM
9 KHz step	88.0 MHz	90.0 MHz	98.0 MHz	100.0 MHz	106.0 MHz	108.0 MHz	160 KHz	300 KHz	92.0 MHz	94.0 MHz
<b>AT-56</b>	FM	FM	FM	FM	FM	FM	FM	FM	FM	FM
9 KHz step	88.0 MHz	90.0 MHz	98.0 MHz	100.0 MHz	106.0 MHz	108.0 MHz	95.75 MHz	107.75 MHz	89.3 MHz	90.6 MHz

CH11	CH12	CH13	CH14	CH15	CH16	CH17	CH18	CH19	CH20
AM	AM	AM	AM	AM	AM	AM	AM	FM	FM
530 KHz	600 KHz	1000 KHz	1400 KHz	1610 KHz	800 KHz	1190 KHz	1300 KHz	96.0 MHz	102.0 MHz
FM	MW	MW	MW	MW	MW	LW	LW	FM	FM
95.75 MHz	603 KHz	999 KHz	1404 KHz	801 KHz	1305 KHz	200 KHz	350 KHz	96.0 MHz	102.0 MHz
AM	AM	AM	AM	AM	AM	AM	AM	FM	FM
531 KHz	603 KHz	999 KHz	1404 KHz	1602 KHz	801 KHz	1197 KHz	1305 KHz	90.9 MHz	96.5 MHz

### 3-3. ADJUSTMENT

STEP	ADJUSTMENT
1.	SSG frequency, out put level
2.	Tuning frequency
3.	Test point, Adjustment part
4.	(●) Instrument connection.
	(*) Result

Adjustment part

Test point

#### FM

**NOTE:** Set the SSG to 1 kHz, 75 kHz deviation for U, E, B and S model, 40 kHz deviation for V model.

##### 2 FM DISTORTION

- 98.0 MHz, 60 dBμ
- 98.0 MHz, FM BAND : WIDE, FM AUTO : OFF
- OUT PUT, T103
- Connect the distortion meter to the output.  
\*Minimum distortion.

##### 4 FM STEREO SEPARATION (WIDE/NARROW)

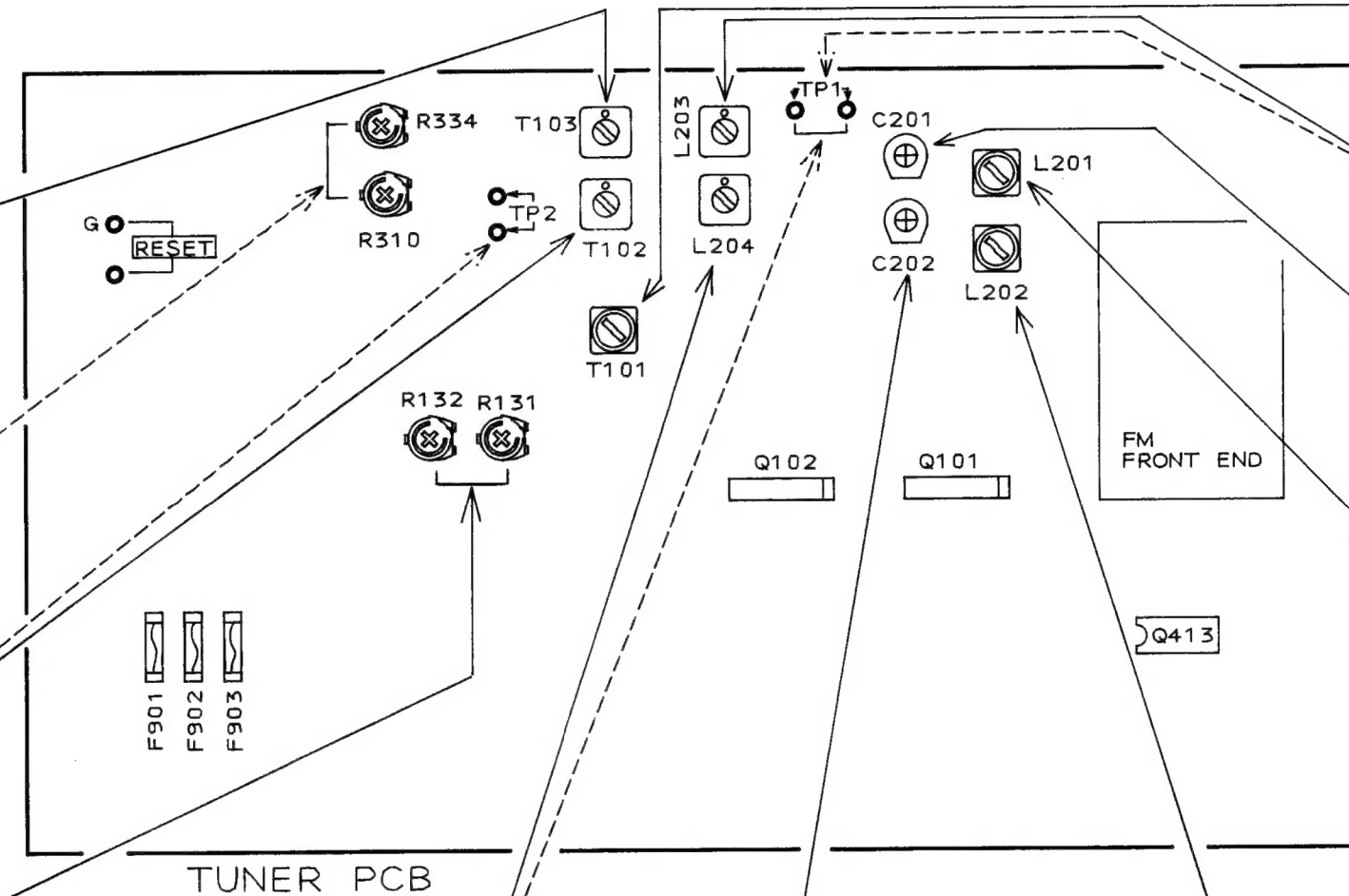
- 98.0 MHz, 60 dBμ (L or R channel only)
- 98.0 MHz, IF BAND: WIDE and NARROW, FM AUTO
- OUT PUT (Rch or Lch), R334 (WIDE)/R310 (NARROW)
- Connect an AC milli-voltmeter to the OUT-PUT.  
(Opposite channel of signal input channel)  
\*Minimum output level

##### 1 FM CENTER VOLTAGE

- 98.0 MHz, 60 dBμ
- 98.0 MHz, FM BAND: WIDE, FM AUTO: OFF
- TP-2, T102
- Connect the DC Voltmeter to the TP-2.  
\*0 V

##### 3 FM SIGNAL INDICATOR (WIDE/NARROW)

- 98.0 MHz, 50 dBμ (STEREO)
- 98.0 MHz, IF BAND: WIDE and NARROW.
- SIGNAL indicator on the FRONT PANEL, R132 (WIDE)/R131 (NARROW)
- \*5th L.E.D light up on signal strength indicator.



#### AM (MW)

**NOTE:** 1 Set the SSG to 1 kHz, 30 % modulation of each.  
2 Indicated frequency in [ ] are the model for 10 kHz step.

##### 1 AM IF

- 531 [530] kHz, 70 dBμ
- 531 [530] kHz
- OUT PUT, T101
- Connect the AC milli-voltmeter to the OUT-PUT.  
\*Maximum output level.

##### 2 AM (MW) OSC

- 531 [530] kHz, 70 dBμ
- 531 [530] kHz
- TP-1, L203
- Connect the DC voltmeter to the TP-1  
\*1.2 ± 0.03 V

##### 4 AM (MW) SENSITIVITY (High)

- 1404 [1400] kHz, 70 dBμ
- 1404 [1400] kHz
- OUT PUT, C201
- Connect the AC milli-voltmeter to the OUT-PUT.  
\*Maximum output level

##### 3 AM (MW) SENSITIVITY (Low)

- 603 [600] kHz, 70 dBμ
- 603 [600] kHz
- OUT PUT, L201
- Connect the AC milli-voltmeter to the OUT-PUT.  
\*Maximum output level

#### AM (LW)

##### 1 AM (LW) OSC

- 144 kHz, 70 dBμ
- 144 kHz
- TP-1, L204
- Connect the DC voltmeter to the TP-1  
\*1.2 ± 0.03 V

##### 3 AM (LW) SENSITIVITY (High)

- 350 kHz, 70 dBμ
- 350 kHz
- OUT PUT, C202
- Connect the AC milli-voltmeter to the OUT-PUT  
\*Maximum output level

##### 2 AM (LW) SENSITIVITY (Low)

- 160 kHz, 70 dBμ
- 160 kHz
- OUT PUT, L202
- Connect the AC milli-voltmeter to the OUT-PUT  
\*Maximum output level

**NOTE:** Set the SSG to 1 kHz, 30 % modulation of each.



# IV. PARTS LIST

## ATTENTION

1. When placing an order for parts, be sure to list Part No., Model No. and the description of eachpart. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

## HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

## 2. HEAD BASE BLOCK

Ref.No.	Part No.	Description
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

b) PC Board

## 6. MAIN PC BOARD

Ref.No.	Part No.	Description
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A] : AAL (U.S.A) [S] : SAA (Australia)  
[B] : BEAB (England) [U] : U/T (Universa Area)  
[C] : CSA (Canada)  
[E] : CEE (Europe) [V] : VDE (W. Germany)  
[J] : JPN (Japan) [Y] : Custom Version

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

## WARNING

△ (\*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

## AVERTISSEMENT

△ (\*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

## 1.RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref.No.	Part No.	Description
1	*BT-729938J	TRANS POW AT-56 (B)
2	*BT-729935J	TRANS POW AT-56 (E,V)
3	*BT-729936J	TRANS POW AT-56 (S)
4	*BT-729937J	TRANS POW AT-56 (U)
5	ED-360236	D LED GL-5EG8 GREEN
6	ED-360318	D SILICON H MA700
7	ED-307572	D SILICON H 1SS131
8	ED-729939J	D SILICON H 1SS135T-72
9	*ED-729940J	D SILICON 1A2-E
10	ED-349460-A	D VARACTOR SVC321SPA ABCD DBL
11	ED-384516J	D ZENER H 05AZ24-R
12	ED-384567J	D ZENER H 05AZ6.8-Y
13	EE-729944J	FRONT END FM-FTZ
14	*EF-365246	FUSE BET T 250V 125MA
15	*EF-358974	FUSE BET T 250V 630MA
16	EH-344434	FILTER CE BFU450C4N 0.450MHZ
17	EH-729952J	FILTER CE 10.7
18	EH-729953J	FILTER CE 10.7MS
19	EH-729945J	FILTER LP
20	EI-715106	IC BA6154
21	EI-723340J	IC LA1266A
22	EI-729961J	IC LA3401
23	EI-361622	IC LM7001
24	*EI-728465K	IC MC7805AC
25	*EI-386309J	IC NJM7812A
26	EI-704824	IC TA7060AP
27	EI-729980J	IC TMP47C410AN 6094
28	EI-349970	OSC CE CSB456F11 0.456MHZ
29	EI-382875J	OSC CE CST4.00MGW 4MHZ
30	EI-344422	OSC X'TAL HC-18/U 7.200MHZ
31	EM-390703J	IND FL FV361 CHARACTER
32	*ER-328278	R FUSE H ERD2FC 1/4W 10R0G
33	*ER-303840	R OMF H FS 1W 470J
34	*ER-341331	R OMF H S15 FS 1W 181J
35	*ES-729964J	SW PUSH [POW SW]
36	ES-729974J	SW SLIDE [U] [9/10KHZ STEP]
37	ES-729963J	SW TACT 01C1PE [ANT A/B]
38	*ES-731766J	SW V-SELECTOR [U]
39	ET-729967J	TR DTC144TF
40	ET-370310	TR DTC144TS
41	ET-353734	TR FET 2SJ103 GR,BL
42	ET-363326	TR FET 2SK161 GR
43	ET-359827	TR FET 2SK246 BL
44	ET-729965J	TR 2SA1561 TL2-R
45	ET-389803J	TR 2SA933S R,S
46	ET-389837J	TR 2SC1740S E F05
47	ET-702699	TR 2SC1923 R
48	ET-729966J	TR 2SC4038 TL2-S
49	ET-338565	TR 2SD1302 R,S
50	EZ-729962J	BATTERY CR2032THA

## 2. P.C BOARD

Ref.No.	Part No.	Description
1	BA-729983J	PC (#) TUNER BLK AT-56 (U)
2	BA-729982J	PC (#) TUNER BLK AT-56 (E,S)
3	BA-729984J	PC (#) TUNER BLK AT-56 (V)
4	BA-729981J	PC (#) TUNER BLK AT-56L (E,B)

PC (#) TUNER BLK CONSISTS OF FOLLOWING P.C BOARDS.

- TUNER P.C BOARD
- CONTROL P.C BOARD
- POWER SW P.C BOARD

## 3. TUNER P.C BOARD

Ref.No.	Part No.	Description
C201	EC-729958J	C S-FIX 10P
C210	EC-729959J	C S-FIX 30P [AT-56L]
D001	ED-729939J	D SILICON H 1SS135T-72
D002	ED-729939J	D SILICON H 1SS135T-72
D003	ED-729939J	D SILICON H 1SS135T-72
D004	ED-729939J	D SILICON H 1SS135T-72
D005	ED-729939J	D SILICON H 1SS135T-72
D006	ED-729939J	D SILICON H 1SS135T-72
D101	ED-307572	D SILICON H 1SS131
D102	ED-307572	D SILICON H 1SS131
D103	ED-307572	D SILICON H 1SS131
D104	ED-307572	D SILICON H 1SS131
D105	ED-307572	D SILICON H 1SS131
D106	ED-360318	D SILICON H MA700
D107	ED-360318	D SILICON H MA700
D108	ED-307572	D SILICON H 1SS131
D109	ED-307572	D SILICON H 1SS131
D110	ED-307572	D SILICON H 1SS131
D111	ED-307572	D SILICON H 1SS131
D112	ED-307572	D SILICON H 1SS131
D201	ED-349460-A	D VARACTOR SVC321SPA ABCD DBL
D202	ED-349460-A	D VARACTOR SVC321SPA ABCD DBL
D203	ED-349460-A	D VARACTOR SVC321SPA ABCD DBL [AT-56L]
D204	ED-349460-A	D VARACTOR SVC321SPA ABCD DBL [AT-56L]
D205	ED-307572	D SILICON H 1SS131
D301	ED-307572	D SILICON H 1SS131
D302	ED-307572	D SILICON H 1SS131
D303	ED-307572	D SILICON H 1SS131
D304	ED-307572	D SILICON H 1SS131
D305	ED-307572	D SILICON H 1SS131
D306	ED-307572	D SILICON H 1SS131
D430	ED-307572	D SILICON H 1SS131 [AT-56L]
D431	ED-307572	D SILICON H 1SS131 [AT-56L]
D432	ED-307572	D SILICON H 1SS131 [AT-56L]
D434	ED-307572	D SILICON H 1SS131 [U]
D901	*ED-729940J	D SILICON 1A2-E
D902	*ED-729940J	D SILICON 1A2-E
D903	*ED-729940J	D SILICON 1A2-E
D904	*ED-729940J	D SILICON 1A2-E
D905	*ED-729940J	D SILICON 1A2-E
D906	*ED-729940J	D SILICON 1A2-E
D907	ED-384516J	D ZENER H 05AZ24-R
D908	ED-384567J	D ZENER H 05AZ6.8-Y
D909	ED-307572	D SILICON H 1SS131
D911	ED-307572	D SILICON H 1SS131
D912	ED-307572	D SILICON H 1SS131
D913	ED-307572	D SILICON H 1SS131
D914	ED-307572	D SILICON H 1SS131
D915	ED-729940J	D SILICON 1A2-E
D916	ED-307572	D SILICON H 1SS131
F901	*EF-358974	FUSE BET T 250V 630MA
F902	*EF-358974	FUSE BET T 250V 630MA
F903	*EF-365246	FUSE BET T 250V 125MA
J001	EJ-729941J	ANT TERMINAL 1P [FM ANT A]
J002	EJ-729942J	ANT TERMINAL [FM ANT B]
J301	EJ-729943J	PIN J US2P [OUTPUT]
L201	EO-729954J	COIL ANT MW
L202	EO-729955J	COIL ANT LW [AT-56L]
L203	EO-729956J	COIL RT72-5503
L204	EO-729957J	COIL RT72-5504 [AT-56L]
Q001	ET-389803J	TR 2SA933S R,S
Q002	ET-389837J	TR 2SC1740S E F05
Q003	ET-370310	TR DTC144TS
Q101	EI-704824	IC TA7060AP
Q102	EI-704824	IC TA7060AP
Q103	ET-702699	TR 2SC1923 R
Q104	EI-723340J	IC LA1266A
Q105	ET-389803J	TR 2SA933S R,S

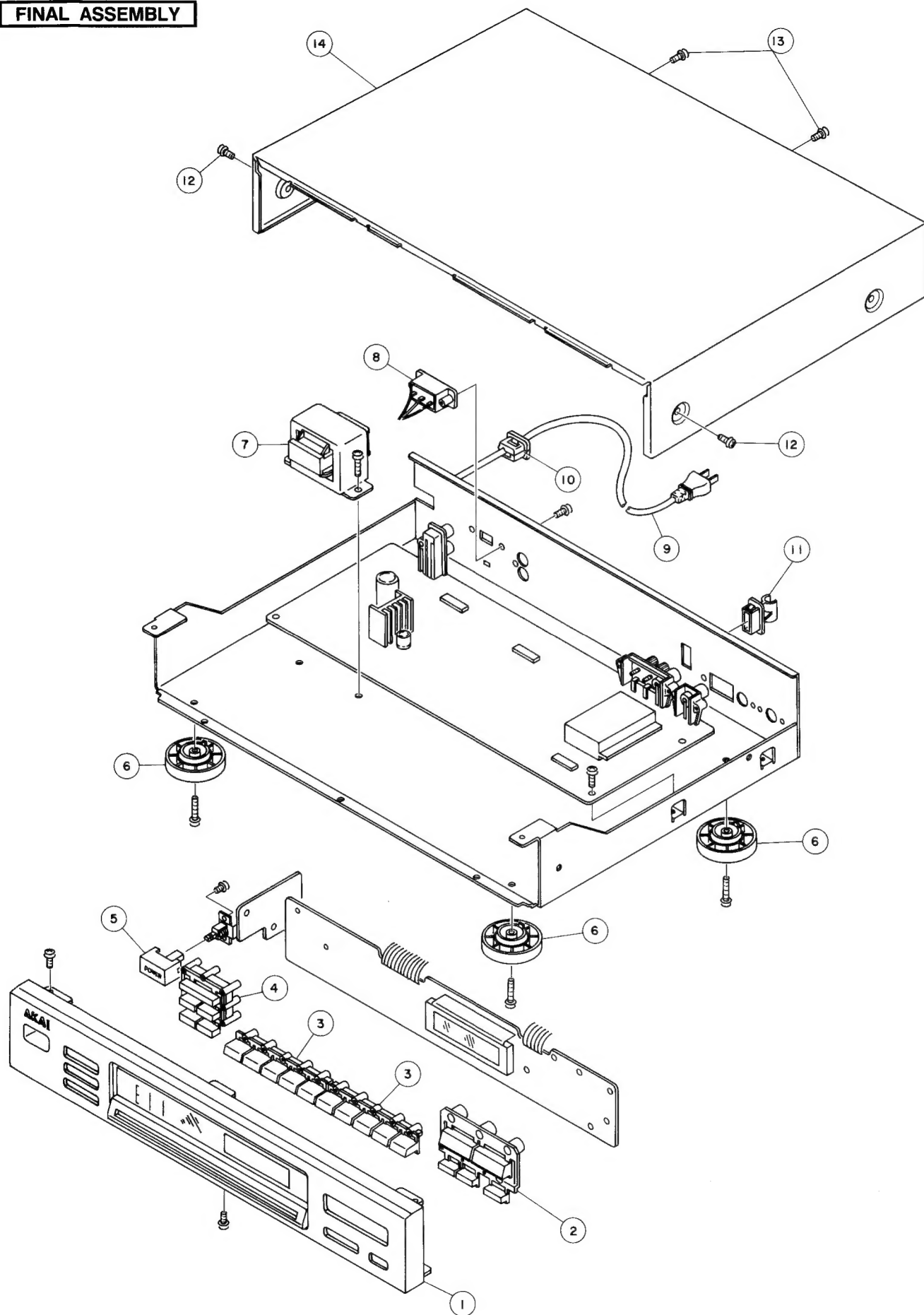
Ref.No.	Part No.	Description
Q106	ET-389837J	TR 2SC1740S E F05
Q107	ET-370310	TR DTC144TS
Q108	ET-702699	TR 2SC1923 R
Q109	ET-363326	TR FET 2SK161 GR
Q110	ET-370310	TR DTC144TS
Q111	ET-389837J	TR 2SC1740S E F05
Q112	ET-370310	TR DTC144TS
Q201	ET-389837J	TR 2SC1740S E F05 [AT-56L]
Q202	ET-389837J	TR 2SC1740S E F05 [AT-56L]
Q203	ET-389837J	TR 2SC1740S E F05 [AT-56L]
Q204	ET-389837J	TR 2SC1740S E F05 [AT-56L]
Q301	EI-729961J	IC LA3401
Q302	ET-370310	TR DTC144TS
Q303	ET-389837J	TR 2SC1740S E F05
Q304	ET-353734	TR FET 2SJ103 GR,BL
Q305	ET-389837J	TR 2SC1740S E F05
Q306	ET-389837J	TR 2SC1740S E F05
Q307	ET-338565	TR 2SD1302 R,S
Q308	ET-338565	TR 2SD1302 R,S
Q309	ET-353734	TR FET 2SJ103 GR,BL [U]
Q310	ET-353734	TR FET 2SJ103 GR,BL [U]
Q313	ET-370310	TR DTC144TS [U]
Q411	ET-359827	TR FET 2SK246 BL
Q412	ET-389837J	TR 2SC1740S E F05
Q413	EI-361622	IC LM7001
Q414	ET-389837J	TR 2SC1740S E F05
Q415	ET-389803J	TR 2SA933S R,S
Q416	ET-389837J	TR 2SC1740S E F05 [AT-56L]
Q417	ET-389803J	TR 2SA933S R,S [AT-56L]
Q420	ET-389803J	TR 2SA933S R,S [U]
Q901	*EI-386309J	IC NJM7812A
Q902	*EI-728465K	IC MC7805AC
Q903	ET-370310	TR DTC144TS
Q904	ET-389803J	TR 2SA933S R,S
Q905	ET-389837J	TR 2SC1740S E F05
Q906	ET-370310	TR DTC144TS
Q907	ET-389803J	TR 2SA933S R,S
R009	*ER-303840	R OMF H FS 1W 470J
R123	*ER-303840	R OMF H FS 1W 470J
R131	EV-729960J	R S-FIX 473B
R132	EV-729960J	R S-FIX 473B
R140	*ER-328278	R FUSE H ERD2FC 1/4W 10R0G
R302	*ER-328278	R FUSE H ERD2FC 1/4W 10R0G
R310	EV-729951J	R S-FIX 104B
R334	EV-729951J	R S-FIX 104B
R904	*ER-341331	R OMF H S15 FS 1W 181J
S421	ES-729974J	SW SLIDE [U] [9/10KHZ STEP]
T101	EO-729949J	COIL IFT AM-M-CE
T102	EO-729947J	COIL IFT FM-T2
T103	EO-729946J	COIL IFT FM-T1
Z001	EE-729944J	FRONT END FM-FTZ
Z101	EH-729953J	FILTER CE 10.7MS
Z102	EH-729953J	FILTER CE 10.7MS
Z103	EH-729952J	FILTER CE 10.7
Z104	EH-729952J	FILTER CE 10.7
Z105	EH-344434	FILTER CE BFU450C4N 0.450MHZ
Z106	EO-729948J	COIL AM
Z301	EH-729945J	FILTER LP
Z302	EH-729945J	FILTER LP
Z303	EI-349970	OSC CE CSB456F11 0.456MHZ
Z402	EI-344422	OSC X'TAL HC-18/U 7.200MHZ

#### 4. CONTROL P.C BOARD

Ref.No.	Part No.	Description
B401	EZ-729962J	BATTERY CR2032THA
D401	ED-307572	D SILICON H 1SS131

Ref.No.	Part No.	Description
D402	ED-307572	D SILICON H 1SS131
D403	ED-307572	D SILICON H 1SS131
D404	ED-307572	D SILICON H 1SS131
D405	ED-307572	D SILICON H 1SS131
D406	ED-307572	D SILICON H 1SS131
D407	ED-307572	D SILICON H 1SS131
D408	ED-307572	D SILICON H 1SS131
D409	ED-307572	D SILICON H 1SS131
D410	ED-307572	D SILICON H 1SS131
D411	ED-307572	D SILICON H 1SS131 [U]
D412	ED-307572	D SILICON H 1SS131
D413	ED-307572	D SILICON H 1SS131
D414	ED-307572	D SILICON H 1SS131
D415	ED-307572	D SILICON H 1SS131
D416	ED-307572	D SILICON H 1SS131
D417	ED-307572	D SILICON H 1SS131
D418	ED-307572	D SILICON H 1SS131
D419	ED-360236	D LED GL-5EG8 GREEN
D420	ED-360236	D LED GL-5EG8 GREEN
D421	ED-360236	D LED GL-5EG8 GREEN
D422	ED-360236	D LED GL-5EG8 GREEN
D423	ED-360236	D LED GL-5EG8 GREEN
D424	ED-360236	D LED GL-5EG8 GREEN
D425	ED-360236	D LED GL-5EG8 GREEN
D426	ED-360236	D LED GL-5EG8 GREEN
D427	ED-360236	D LED GL-5EG8 GREEN
F401	EM-390703J	IND FL FV361 CHARACTER
Q401	EI-729980J	IC TMP47C410AN 6094
Q402	ET-729967J	TR DTC144TF
Q403	ET-729967J	TR DTC144TF
Q404	ET-729967J	TR DTC144TF
Q405	ET-729967J	TR DTC144TF
Q406	ET-729965J	TR 2SA1561 TL2-R
Q407	ET-729966J	TR 2SC4038 TL2-S
Q408	ET-729965J	TR 2SA1561 TL2-R
Q409	ET-729966J	TR 2SC4038 TL2-S
Q410	ET-729965J	TR 2SA1561 TL2-R [U]
Q418	EI-715106	IC BA6154
S401	ES-729963J	SW TACT 01C1PE [ANT A/B]
S402	ES-729963J	SW TACT 01C1PE [AUTO/MANU]
S403	ES-729963J	SW TACT 01C1PE [PRESET]
S404	ES-729963J	SW TACT 01C1PE [M9/19]
S405	ES-729963J	SW TACT 01C1PE [0/10/20]
S406	ES-729963J	SW TACT 01C1PE [DIRECT]
S407	ES-729963J	SW TACT 01C1PE [TUNING UP]
S408	ES-729963J	SW TACT 01C1PE [TUNING DOWN]
S409	ES-729963J	SW TACT 01C1PE [BAND]
S410	ES-729963J	SW TACT 01C1PE [FM AUTO]
S411	ES-729963J	SW TACT 01C1PE [MEMO]
S412	ES-729963J	SW TACT 01C1PE [IF BAND]
S413	ES-729963J	SW TACT 01C1PE [M5/15]
S414	ES-729963J	SW TACT 01C1PE [M6/16]
S415	ES-729963J	SW TACT 01C1PE [M7/17]
S416	ES-729963J	SW TACT 01C1PE [M8/18]
S417	ES-729963J	SW TACT 01C1PE [M1/11]
S418	ES-729963J	SW TACT 01C1PE [M2/12]
S419	ES-729963J	SW TACT 01C1PE [M3/13]
S420	ES-729963J	SW TACT 01C1PE [M4/14]
Z401	EI-382875J	OSC CE CST4.00MGW 4MHZ

# FINAL ASSEMBLY





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## 5. POWER SW P.C BOARD

Ref.No.	Part No.	Description
S901	*ES-729964J	SW PUSH [POW SW]

## 6. FINAL ASSEMBLY

Ref.No.	Part No.	Description
1-B	BD-731765J	PANEL FRONT BLK AT-56B
1-G	BD-729973J	PANEL FRONT BLK AT-56G
2-B	SK-731762J	KNOB TUNING (B)
2-G	SK-729971J	KNOB TUNING (G)
3-B	SK-731763J	KNOB PRESET (B)
3-G	SK-729972J	KNOB PRESET (G)
4-B	SK-731761J	KNOB ANT (B)
4-G	SK-729970J	KNOB ANT (G)
5-B	SK-373236B	KNOB POWER-B
5-G	SK-373236A	KNOB POWER-G
6	SA-379375	FOOT(N)
7A	*BT-729937J	TRANS POW AT-56 (U)
7B	*BT-729935J	TRANS POW AT-56 (E,V)
7C	*BT-729938J	TRANS POW AT-56 (B)
7D	*BT-729936J	TRANS POW AT-56 (S)
8	*ES-731766J	SW V-SELECTOR [U]
9A	*EW-374894	AC CORD 2C VM-0129A,VFF U/T
9B	*EW-347897	AC CORD 2 CORES VM0364,LCFL EV
9C	*EW-346249	AC CORD 2 CORES LCFL2X0.75 B
9D	*EW-347898	AC CORD 2 CORES VM-0436,LCFL S
10	*EZ-371605	BUSH CORD 2271
11	SZ-731764J	HOLDER ANT
12	ZS-322580	ST BID40X08STL BNI
13	ZS-308846	T2BR30X08STL BZN PROJECTION
14-B	SP-368689B	COVER UPPER-B
14-G	SP-368689A	COVER UPPER-G

### NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

## 7. ACCESSARY

Ref.No.	Part No.	Description
1	EE-729968J	ANT LOOP 3110
2	EE-729969J	ANT FM

## MEMO

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## ABBREVIATIONS (TUNER)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AFC	Auto Frequency Control	MEMO	MEMOry
AGC	Auto Gain Control	MI-COM	Mlcro-COMputer
ALC	Auto Level Control	MIN	MINimum
AM	Amplitude Modulation	MIX	MIXing
AMP	AMPlifier	MPX	Multi pleX
ANT	ANTenna	MW	Medium Wave (frequency)
BATT	BATTery	NC	No Connection
BLK	BLocK	NFB	Negative Feed Back
BUFF	BUFFer	OSC	OSCillator
COMP	COMPalator	PCB	Printed Circuit Board
DET	DETECT (DETctor)	PLL	Phase Locked Loop
FLD		Q.D	Quadrature Detector
FM	Frequency Modulation	Rch	Right channel
FREQ	FREQuency	REF	REFerence
GND	GrouND	REG	REGulator
H	High	RF	Radio Frequency
HPF	High Pass Filter	SEG	SEGment
IF	Intermediate Frequency	SELE	SELEctor
IHF	Institut of High Fidelity	SENS	SENSitivity
IND	INDicator	SIG	SIGNAL
I/O	In/Out	S/N	Signal to Noise Ratio
JW	Jumper Wire	SSG	Standard Signal Generator
L	Low	STD	STanDard
LCD	Liquid Crystal Display	SW	SWitch: Short Wave (frequency)
Lch	Left channel	THD	Total Harmonic Distortion
LED	Light Emitting Diode	TP	Test Point
LPF	Low Pass Filter	VCO	Voltage Controlled Oscillator
LW	Long Wave (Frequency)	VR	Variable Resistor
		X'TAL	Crystal

# **AKAI**

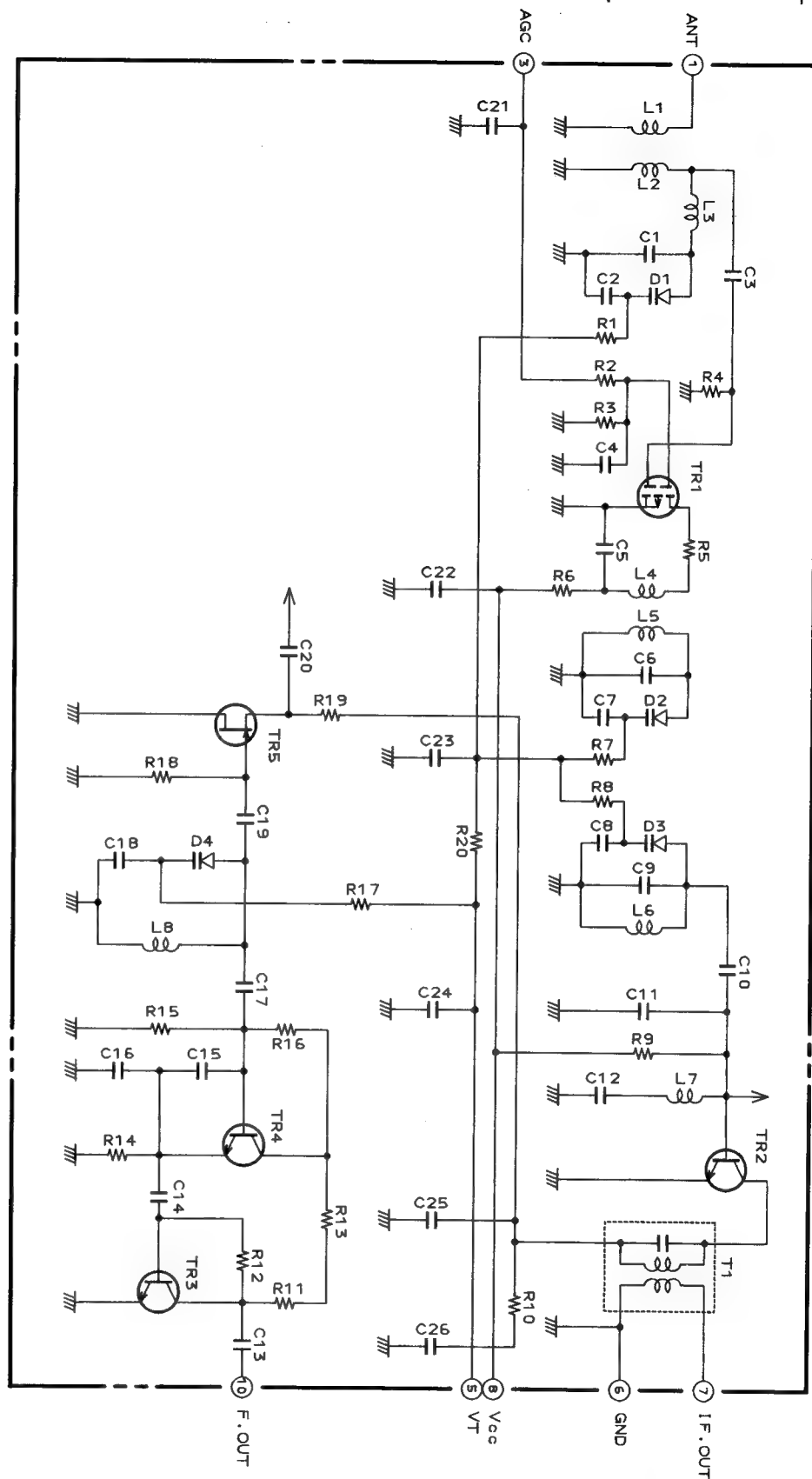
**MODEL AT-56/L**

## **SCHEMATIC DIAGRAMS AND PC BOARDS**

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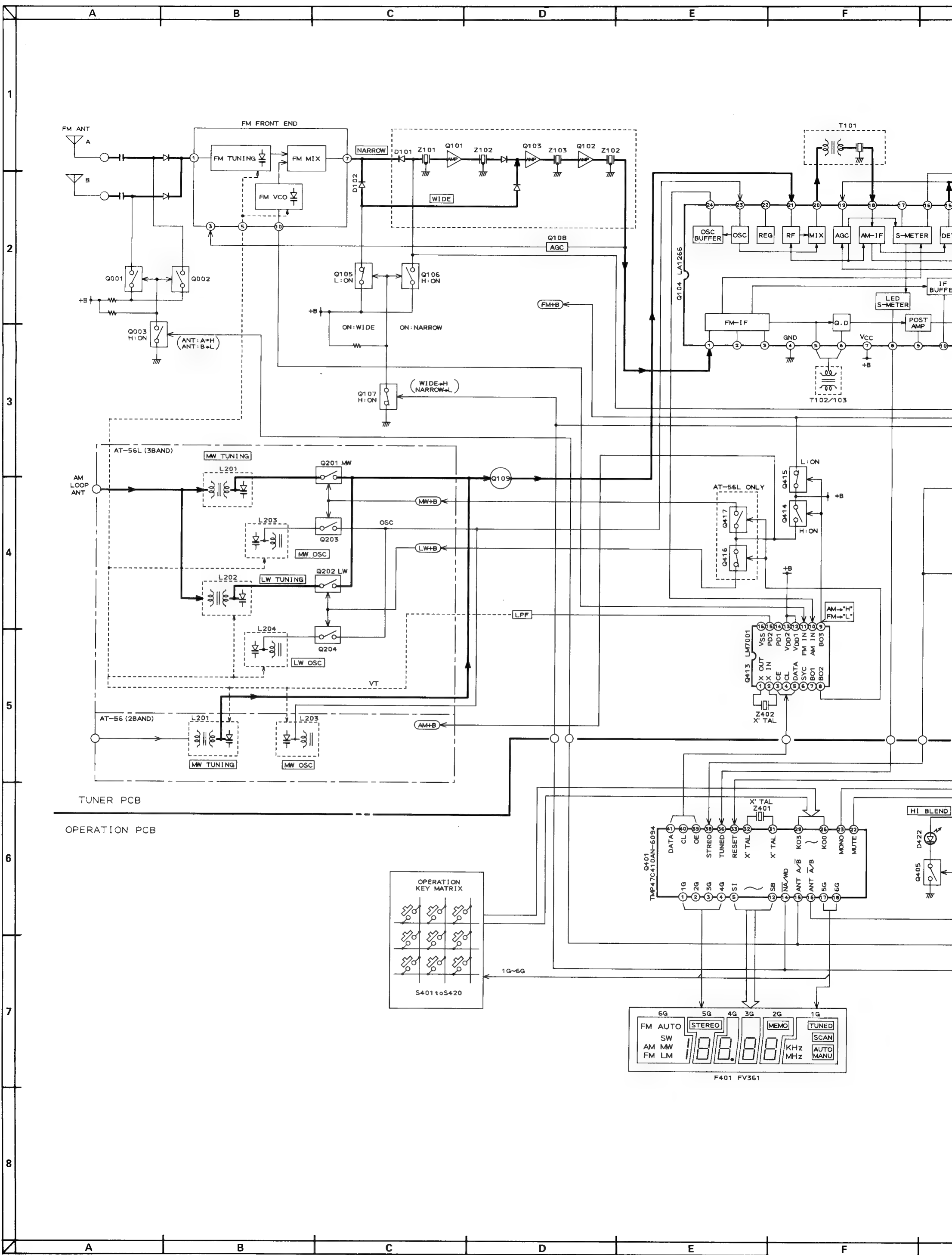
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<b>2. BLOCK DIAGRAM .....</b>	<b>3</b>
<b>3. SCHEMATIC DIAGRAM .....</b>	<b>4</b>
<b>4. TUNER AND OTHER PC BOARDS .....</b>	<b>5</b>

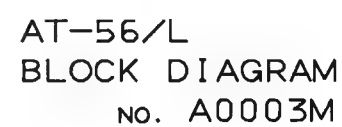
FRONT END



AT-56/L  
FRONT END  
SCHEMATIC DIAGRAM  
No. A0002M

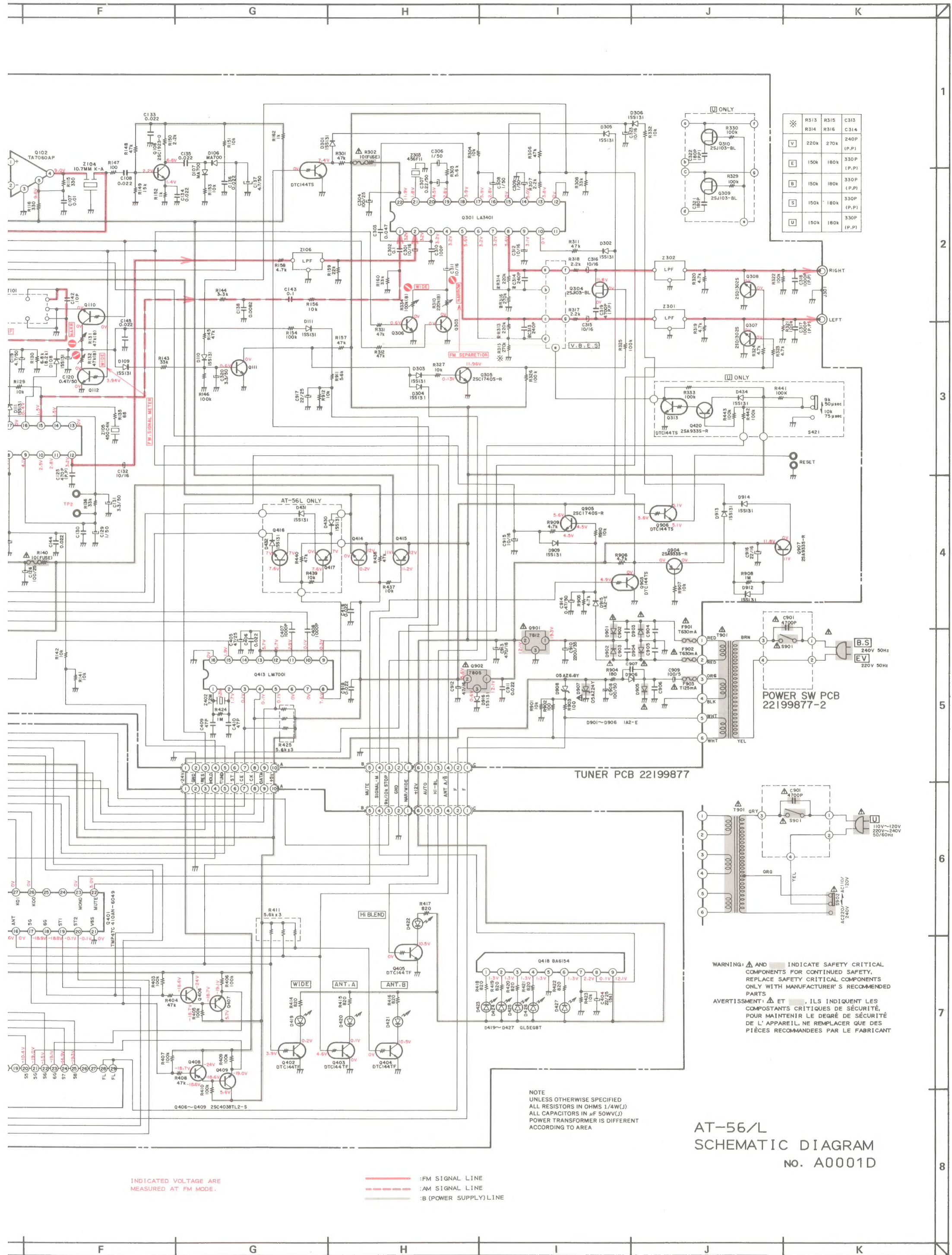




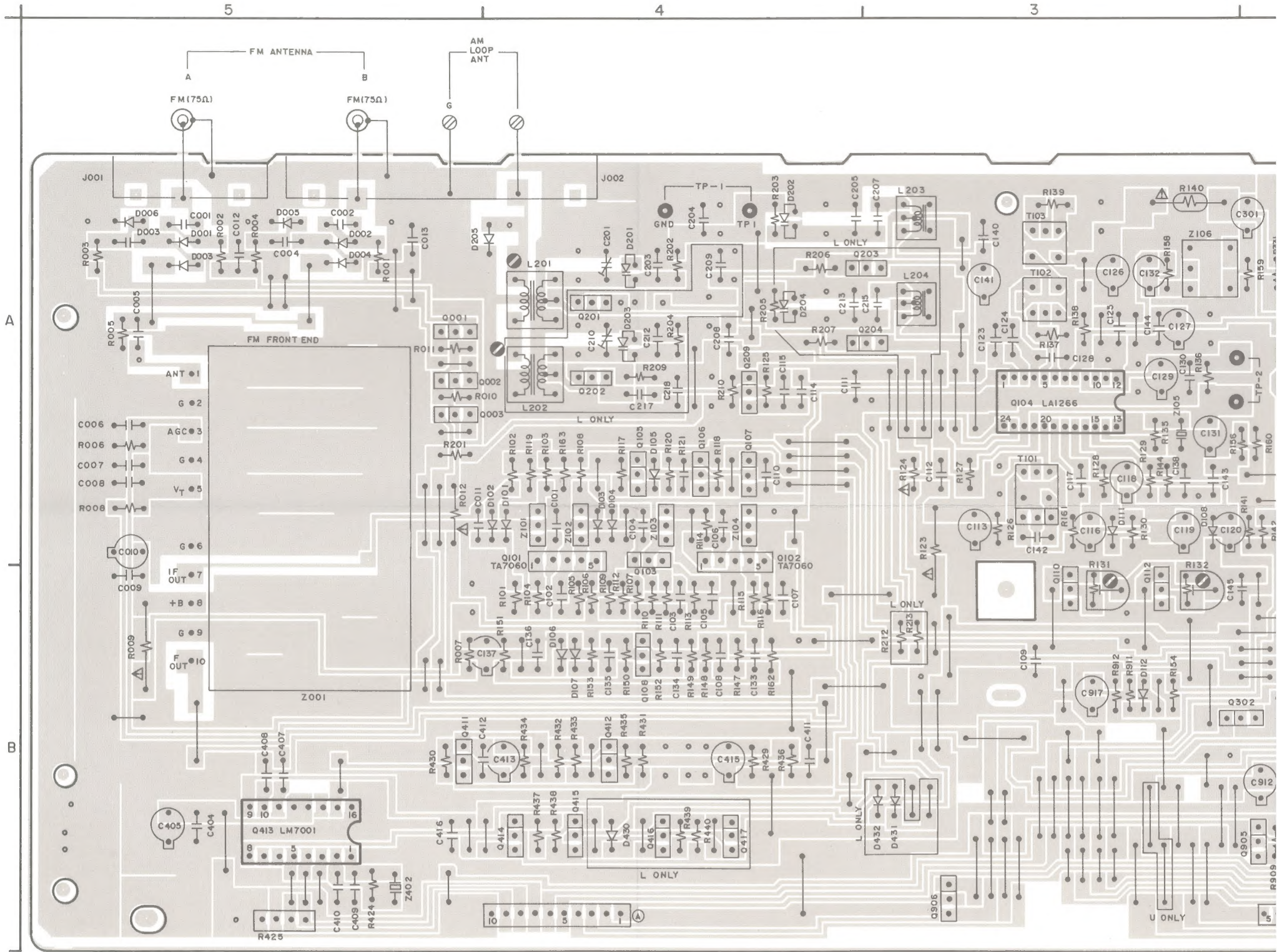




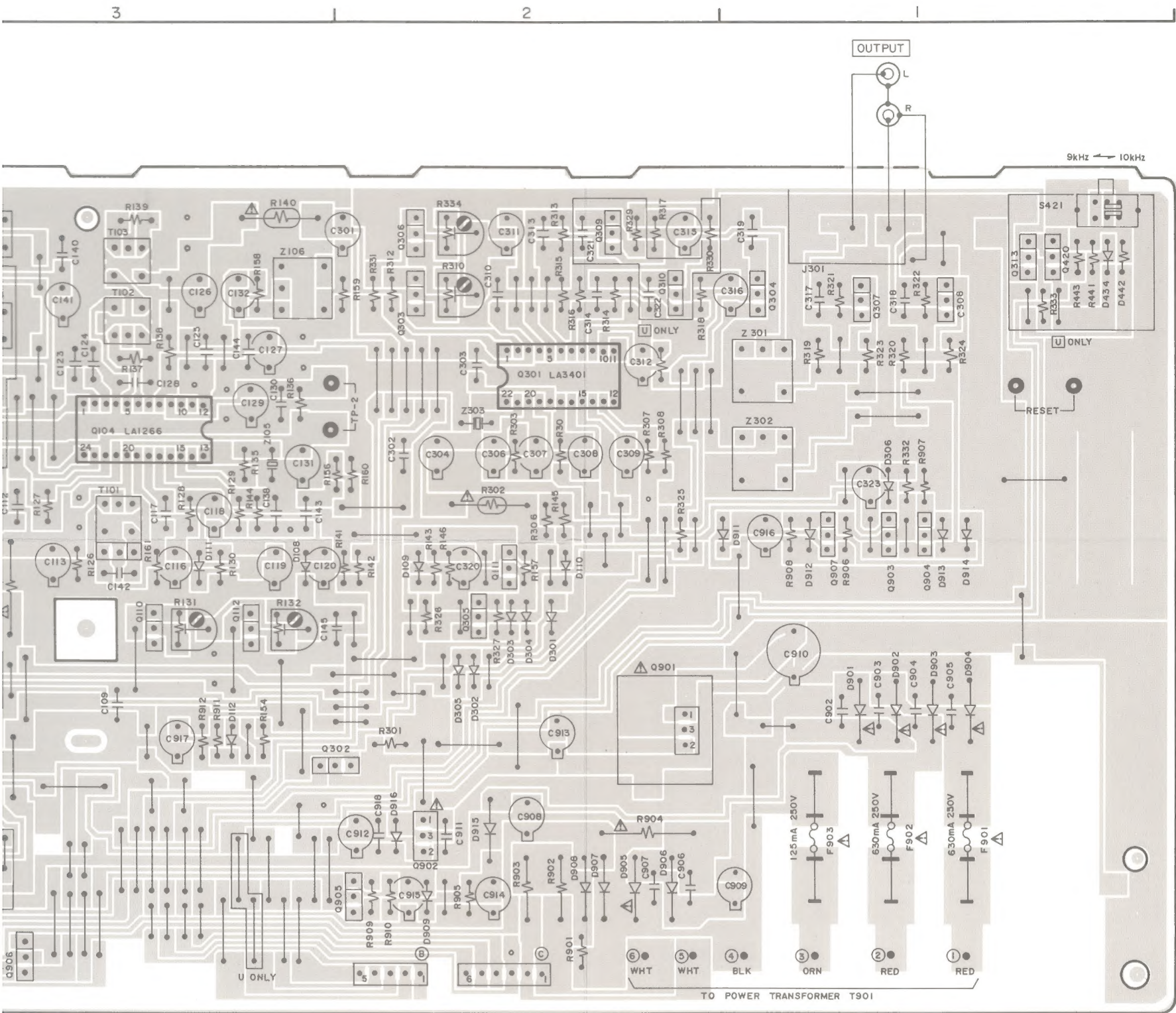










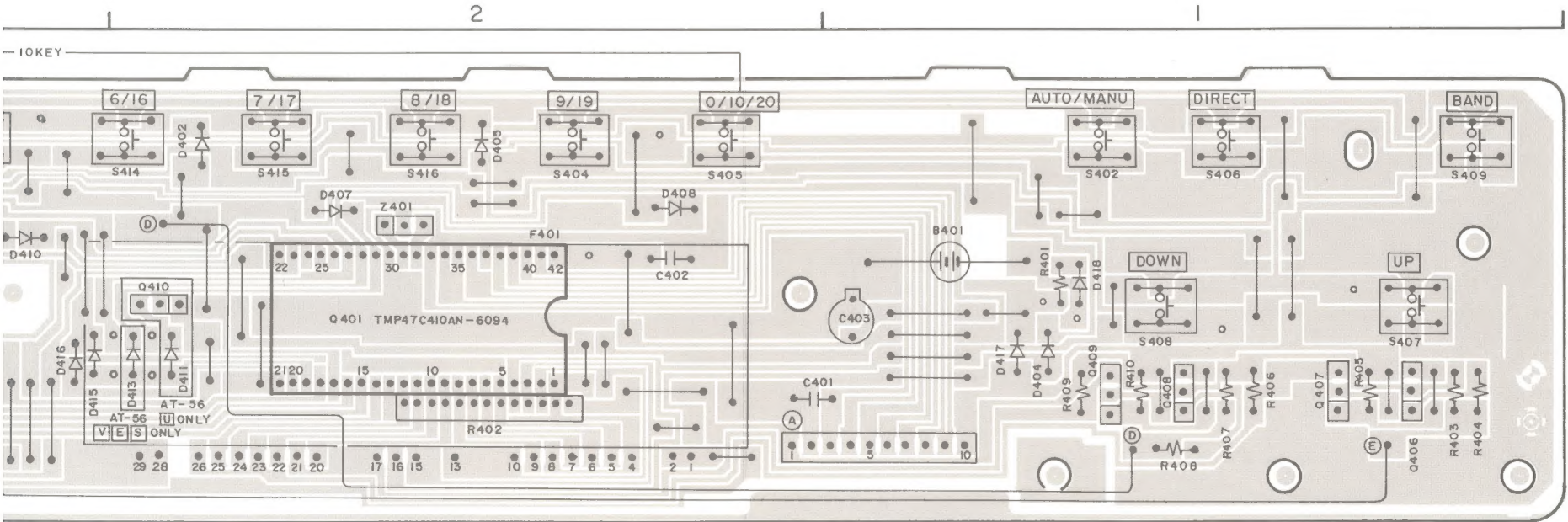
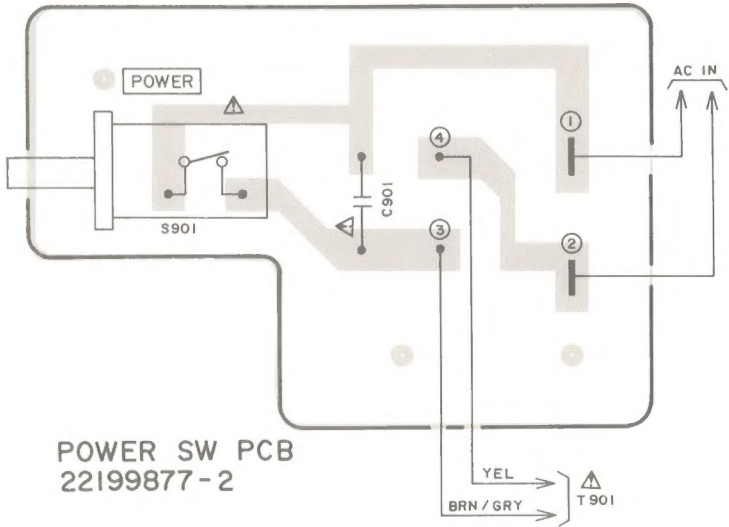


NER PCB 22199877

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY.  
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S  
RECOMMENDED PARTS.  
AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.  
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,  
NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

IPAL PARTS LOCATION

	TRANSISTORS
.....A2	Q402.....A4
.....A3	Q403.....A4
	Q405.....A4
	Q406.....A1
	Q407.....A1
	Q408.....A1
	Q409.....A1
	Q410.....A2



OPERATION PCB 22199877-1